

U.S. Patent Application Serial No. 09/926,632
Response filed August 25, 2004
Reply to OA dated May 26, 2004

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A method of producing a powder coating, wherein a powder coating raw materials solution comprising as essential constituents a room temperature solid main constituent resin (A) with a curable reactive group, a room temperature solid curing agent (B) which reacts with said curable reactive group of said main constituent resin (A), and an organic solvent (C) incorporating a high boiling point organic solvent (C1) with a boiling point at atmospheric pressure of 150 to 300°C, is spray dried at a temperature at which said main constituent resin (A) and said curing agent (B) undergo no substantial curing reaction, and moreover under conditions where either one of a portion of, and all of, said high boiling point organic solvent (C1) remains, yielding a powder coating in which a percentage content of said high boiling point organic solvent (C1) is from 0.005 to 1% by weight, and wherein the amount of said high boiling point organic solvent (C1) used is from 0.005 to 1 part by weight relative to 100 parts of solid matter in the powder coating raw materials solution.

Claim 2 (Original): A method of producing a powder coating according to claim 1, wherein said powder coating raw materials solution utilizes a raw materials solution comprising as essential constituents, a room temperature solid main constituent resin (A) with a curable reactive group, a

U.S. Patent Application Serial No. 09/926,632
Response filed August 25, 2004
Reply to OA dated May 26, 2004

room temperature solid curing agent (B) which reacts with said curable reactive group of said main constituent resin (A), an organic solvent (C) incorporating a high boiling point organic solvent (C1) with a boiling point at atmospheric pressure of 150 to 300°C, and a pigment (D).

Claim 3 (Original): A method of producing a powder coating according to claim 2, wherein spray drying is performed following color adjustment of said powder coating raw materials solution.

Claim 4 (Currently Amended): ~~A method of producing a powder coating according to claim 1;~~ A method of producing a powder coating, wherein a powder coating raw materials solution comprising as essential constituents a room temperature solid main constituent resin (A) with a curable reactive group, a room temperature solid curing agent (B) which reacts with said curable reactive group of said main constituent resin (A), and an organic solvent (C) incorporating a high boiling point organic solvent (C1) with a boiling point at atmospheric pressure of 150 to 300°C, is spray dried at a temperature at which said main constituent resin (A) and said curing agent (B) undergo no substantial curing reaction, and moreover under conditions where either one of a portion of, and all of, said high boiling point organic solvent (C1) remains, yielding a powder coating in which a percentage content of said high boiling point organic solvent (C1) is from 0.005 to 1% by weight, and wherein organic solvent with a boiling point at atmospheric pressure of no more than 100°C accounts for at least 65% by weight of said organic solvent (C).

U.S. Patent Application Serial No. 09/926,632
Response filed August 25, 2004
Reply to OA dated May 26, 2004

Claim 5 (Original): A method of producing a powder coating according to claim 1, wherein said curable reactive group of said main constituent resin (A) is at least one group selected from a group consisting of epoxy groups, carboxyl groups and hydroxyl groups.

Claim 6 (Original): A method of producing a powder coating according to claim 1, wherein at least one curable reactive group of said main constituent resin (A) is an epoxy group, and said curing agent (B) is an aliphatic dibasic acid.

Claim 7 (Original): A method of producing a powder coating according to claim 6, wherein said aliphatic dibasic acid is dodecanedioic acid.

Claim 8 (Original): A method of producing a powder coating according to claim 6, wherein said organic solvent (C) incorporates an alcohol of 4 carbon atoms or fewer, and an amount of said alcohol of 4 carbon atoms or fewer, relative to an amount of said aliphatic dibasic acid incorporated within said powder coating raw materials solution, is a weight ratio of at least four fold.

Claim 9 (Original):: A method of producing a powder coating according to claim 1, wherein said powder coating raw materials solution is spray dried at 40 to 130°C.

U.S. Patent Application Serial No. 09/926,632
Response filed August 25, 2004
Reply to OA dated May 26, 2004

Claim 10 (Currently Amended): A powder coating comprising a room temperature solid main constituent resin (A) with a curable reactive group, a room temperature solid curing agent (B) which reacts with said curable reactive group of said main constituent resin (A), and a high boiling point organic solvent (C1) with a boiling point at atmospheric pressure of 150 to 300°C, wherein a proportion of said high boiling point organic solvent (C1) is from 0.005 to 1% by weight,

wherein at least one curable reactive group of said main constituent resin (A) is an epoxy group, and said curing agent (B) is an aliphatic dibasic acid.

Claim 11 (Original): A powder coating according to claim 10 comprising a room temperature solid main constituent resin (A) with a curable reactive group, a room temperature solid curing agent (B) which reacts with said curable reactive group of said main constituent resin (A), a high boiling point organic solvent (C1) with a boiling point at atmospheric pressure of 150 to 300°C, and a pigment (D).

Claim 12 (Original): A powder coating according to claim 10, wherein said curable reactive group of said main constituent resin (A) is at least one group selected from a group consisting of epoxy groups, carboxyl groups and hydroxyl groups.

Claim 13 (Canceled).

U.S. Patent Application Serial No. 09/926,632
Response filed August 25, 2004
Reply to OA dated May 26, 2004

Claim 14 (Original): A method of forming either one of a single layer and a multiple layer paint film on a target object for painting, wherein a powder coating (X1) produced by a production method according to claim 1 is used as a top coat paint.

Claim 15 (Original): A method of forming a paint film according to claim 14, wherein a base coat paint [I] is applied to said target object for painting, and a top coat paint [II] is applied thereon, and said powder coating (X1) is used as said top coat paint [II].

Claim 16 (Original): A method of forming a paint film according to claim 15, wherein said base coat paint [I] is a colored base coat paint, and said top coat paint [II] is a transparent top coat paint.

Claim 17 (Original): A method of forming either one of a single layer and a multiple layer paint film on a target object for painting, wherein a powder coating (X2) according to claim 10 is used as a top coat paint.

Claim 18 (Original): A method of forming a paint film according to claim 17, wherein a base coat paint [I] is applied to said target object for painting, and a top coat paint [II] is applied thereon, and said powder coating (X2) is used as said top coat paint [II].

U.S. Patent Application Serial No. 09/926,632
Response filed August 25, 2004
Reply to OA dated May 26, 2004

Claim 19 (Original): A method of forming a paint film according to claim 18, wherein said base coat paint [I] is a colored base coat paint, and said top coat paint [II] is a transparent top coat paint.

Claim 20 (Canceled).